

**REMARKS**

**I. Claim Status**

Claims 1-27 and 29-58 are currently pending. Claims 59-61 have been withdrawn from consideration. Claims 5, 6, 8, 10, 20, 42, and 54 have been amended herein. Those amendments do not add new matter.

**II. Claim Rejections under 35 U.S.C. § 112**

***First Paragraph Rejection of Claims 22, 23, and 56-58***

Claims 22, 23, and 56-58 have been rejected under 35 U.S.C. § 112, first paragraph for lack of enablement. In support of that rejection, the Examiner states that the specification does not provide enablement for 50-95% weight percent iridium as is currently being claimed. In particular, the Examiner notes that the specification "recites that a weight percentage of Ir is preferably 1-99%, more preferably 5-50%, more preferably 5-30%, and most preferably 10-30%." Office Action at p. 3.

Applicants respectfully traverse this rejection and point out that the ranges to which the Examiner has referred do not relate to the amount of Ir. In fact, those ranges relate to the second element of the iridium alloy. Accordingly, as the Examiner concedes a range the range of 5-50% of the second allowed element is enable, the range of 50-95% Ir is correspondingly fully enabled in the specification. See Office Action at 3. For at least this reason, the rejection should be withdrawn.

***Second Paragraph Rejection of Claims 1-24 and 37-58***

Claims 1-24 and 37-58 have been rejected under 35 U.S.C. § 112, second paragraph as being incomplete for omitting essential structural cooperative relationships. The Examiner contends that the structural relationship of the electrodes and light detector and/or transparent portion is unclear. Office Action at p. 4.

Applicants respectfully traverse this rejection.

The Examiner cites MPEP § 2172.01 in support of his rejection. That section states that “[a] claim which omits matter disclosed to be essential to the invention as described in the specification . . . may be rejected . . . . In addition, a claim which fails to interrelate essential elements . . . may be rejected under 35 U.S.C. § 112.”

Applicants remind the Examiner that the specification does not indicate that any one orientation of the claimed elements is “essential.” In fact, different embodiments of those elements are contemplated. *See e.g.*, Electrode Geometry. In addition, dependent claim 10 includes an ECL cell which further comprises a support. That support and its relation to the electrodes is recited. Because that is a dependent claim, that necessarily implies that independent claim 1 includes other orientations of the claimed elements. For example, in one embodiment the cell “comprises a first surface that supports the first electrode . . . and an opposing second surface that supports the second electrode . . . and that has a transparent zone that, preferably, forms at least part of the optical detection window.” Paragraph [0013] of U.S. Patent App. Pub. No. 2004/0090168. In contrast, another embodiment is contemplated: the counter electrode is not directly attached to the support structure and is preferably held in a location between the working electrode and the support structure.” *Id.* at ¶ [0050]. For at least these reasons, this rejection should be withdrawn.

***Second Paragraph Rejection of Claims 6-19, 41, and 42***

Claim 6-19, 41, and 42 have been rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. For example, the Office states

that there is no antecedent bases for "said electrode" in the amended claims. In addition these claims contain recitations to the cell further comprising a counter electrode, even though claim 1 includes such an electrode. Office Action at p. 4.

Accordingly, Applicants have amended claims 5, 6, 8, 10, and 42 and canceled claims 7, 9, and 41. Those claim amendments render this rejection moot.

***Second Paragraph Rejection of Claims 37-58***

Claims 37-58 have been rejected under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting essential steps. In support of this rejection, the Examiner invokes MPEP § 2172.01 again, stating that the method claims "merely recite the structural elements that are claimed in the preceding apparatus claims of 1036." In addition, he states that "[a]s such, in the claims which do not set forth method steps, prior art which reads on the apparatus claims will be taken to read on such method claims." Office Action at p. 5.

Applicants respectfully traverse this rejection.

Claim 37 does, in fact, set forth a method step: inducing electrochemiluminescence. That claim limitation is supported in the specification, for example, at page 11, lines 7-8: "for inducing ECL-active material to electrochemiluminescence." Furthermore, the Examiner has brought forth no anticipatory references. Therefore, his statement regarding anticipation of both apparatus and method claims is moot and does not add any substantial support to his reasons for the second paragraph rejection. Therefore, this rejection should be withdrawn.

**III. Claim Rejections under U.S.C. § 103**

***Rejection over Niyama in view of Bard and Tench***

Claims 1-9, 20, 21, 24, and 37-55 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,993,740 ("Niyama") in view of U.S. Patent Nos. 3,900,418 ("Bard") and 4,132,605 ("Tench"). In support of that rejection, the Examiner states that Niyama discloses an electrochemiluminescence cell that includes a working electrode, counter electrode, window and light sensor. In addition, he states other components of Niyama's cell, but points out that Niyama does not disclose electrodes of platinum alloys (5-50% of a second element), rhodium, or rhodium alloys (5-50% of a second element). Office Action at p. 7. The Examiner asserts that Bard discloses an electrode that is generally of a noble metal, including platinum, gold, rhodium, and palladium, any one of which would be well suited for use in ECL solutions. In addition, the Examiner states that Tench discloses in one embodiment a counter electrode composed of platinum-10% rhodium. The Examiner concludes that it would have been obvious to modify Niyama to include an electrode of rhodium as taught by Bard and to include a counter electrode of an alloy such as those taught by Tench. *Id.* at p. 8.

Applicants respectfully traverse this rejection.

Tench relates to metal plating: "This invention is related to the field of plating and particularly to the field of quality control of electroplating baths." col. 1, lines 7-9. There is no suggestion in either Tench or Niyama that one could combine the two teachings. Furthermore, one of skill in the present area of electrochemiluminescence would have no reason to use the metal plating electrodes in the ECL cell of Niyama. For at least

this reason, the rejection with respect to claims drawn to platinum and rhodium alloys should be withdrawn.

Although Bard discloses electrodes composed of rhodium, Niyama does not discuss this element at all. Additionally, the list of permissible alloys discussed in Niyama does not contain any broadening language—instead it only lists specific metals and indicates that alloys of those metals can be used. It does not say “metals such as,” “metals including,” “and the like,” and other similar metals,” or anything of that nature. Reading Niyama would lead the skilled artisan to believe that he or she must choose from the short list of 6 metals and corresponding alloys thereof. However, without conceding the propriety of this rejection, Applicants in order to expedite prosecution have amended claim 20 to eliminate an electrode of only rhodium.

***Rejection over Niyama in view of Bard, Tench, and Wohlstadter***

Claims 10-19 and 33-36 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Niyama in view of Bard, Tench, and U.S. Patent No. 6,207,369 (“Wohlstadter”). In support of that rejection, the Examiner states that it would have been obvious to modify the Niyama/Bard/Tench device to include a transparent support taught by Wohlstadter. Office Action a p. 9.

Applicants respectfully traverse this rejection.

As discussed above, the present invention is not obvious over Niyama/Bard/Tench. Wohlstadter’s disclosure does not compensate for the deficiencies of those references. In particular, Wohlstadter does not teach electrodes made of any alloys. Furthermore, the rejection of claims of claims 25-32 under 35 U.S.C. § 103(a) over Wohlstadter (July 17, 2006, Office Action) has been withdrawn. Consequently, the

Office has tacitly acknowledged that Wohlstadter does not render obvious those claims. Claims 33-36 depend from 32, and as a result should also be nonobvious based on the withdrawal of that rejection.

In addition, the Examiner alleges that Wohlstadter discloses the use of a waveform generator/potentiostat as a source of electrical energy. However, Wohlstadter does not teach or describe the limitation "capable of maintaining said counter electrode at a constant potential or at a potential that does not vary relative to a potential of said light detector. As Applicants have previously argued before the Office, that limitation is advantageous by reducing "the noise component of the signal produced by the light detector during an ECL measurement that results from capacitive coupling of the electrodes to the light detector." November 16, 2006, Response to Office Action at p. 22. For at least these reasons, the present rejection of claims 10-19 and 33-36 should be withdrawn.

***Rejection over Liljestrand, in view of Niyama, Bard, Tench, and Kovacs***

Claims 1-21 and 24-55 have been rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 6,200,531 ("Liljestrand") in view of Niyama, Bard, Tench, and U.S. Patent No. 5,965,452 ("Kovacs"). In support of this rejection the Examiner asserts that "[i]t would have been obvious to modify Liljestrand to include an electrode of rhodium and to include a counter electrode of a platinum alloy with 10% rhodium as a second element and to include a counter electrode of a rhodium alloy with 90% platinum as a second element such as taught by Niyama, Bard, and Tench . . . It would have been obvious to modify Liljestrand to include a field extending element that is not a mesh or screen such as taught by Kovacs . . ." Office Action at p. 12.

Applicants respectfully traverse this rejection.

Once again the Examiner has relied upon Bard and Tench to make obvious the use of rhodium and metal alloys as electrodes. As Applicants have already outlined above, Niyama in view of Bard and Tench do not render obvious the present invention. Furthermore, the electrode configuration of Kovacs is irrelevant, as it is wholly silent with respect to electrode materials. Because Bard, Tench, and Kovacs cannot compensate for Niyama's deficiencies, this rejection should be withdrawn.

### **CONCLUSION**

In view of the foregoing amendments and remarks, Applicants respectfully request reconsideration and reexamination of this application and the timely allowance of the pending claims.

Applicants respectfully request that this Amendment under 37 C.F.R. § 1.116 be entered by the Examiner, placing the claims in condition for allowance. Applicants submit that the proposed amendments of the claims do not raise new issues or necessitate the undertaking of any additional search of the art by the Examiner, since all of the elements and their relationships claimed were either earlier claimed or inherent in the claims as examined. Therefore, this Amendment should allow for immediate action by the Examiner.

Furthermore, Applicants respectfully point out that the final action by the Examiner presented some new arguments as to the application of the art against Applicants' invention. It is respectfully submitted that the entering of the Amendment would allow the Applicants to reply to the final rejections and place the application in condition for allowance.

Finally, Applicants submit that the entry of the amendment would place the application in better form for appeal, should the Examiner dispute the patentability of the pending claims.

In view of the foregoing remarks, Applicants submit that this claimed invention, as amended, is not rendered obvious in view of the prior art references cited against this application. Applicants therefore request the entry of this Amendment, the Examiner's reconsideration and reexamination of the application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our Deposit Account No. 06-0916.

Respectfully submitted,

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